SURGICAL ETHICS CHALLENGES

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Ethics of introducing new operating room technology

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Before beginning the procedure this morning, Dr R. had understood that circulating nurse N. was familiar with a new fiber optic probe with guided imagery. She had attended a two-hour training session provided to all operating room (OR) nursing staff by the equipment manufacturer. Dr R. had attended the weekend expense-paid hands-on training course conducted by the company at its Arizona headquarters, a seminar available only to surgeons. The procedure was nevertheless delayed by more than an hour because neither Dr. R nor nurse N knew how to recalibrate the machine properly when a malfunction occurred after the anesthetic induction. The manufacturer was contacted by phone to trouble-shoot the problem while the patient remained anesthetized. Dr. R. complained to the nursing supervisor that the circulating nurse had failed to manage the new equipment. The nursing supervisor responded that the nurse had taken the brief course and passed the in-service exam, neither of which referred to the kinds of problems encountered that day. During the training course in Arizona, Dr R. had felt that it was more important for him to focus on the operative techniques demonstrated than on the instrument's calibration. Who bears ethical responsibility for this problem?

A. Dr R, as the attending surgeon, must be the most proficient of the OR team in understanding new equipment, and is most responsible.
B. OR nurses are responsible for OR equipment.
C. It is an equally shared responsibility between the surgeon and the circulating nurse.
D. The OR supervisor is responsible and must make certain that the circulating nurse is adequately trained to operate new equipment.
E. The surgeon-in-chief ultimately has the responsibility.

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The surgeon's first and most fundamental ethical obligation as patient fiduciary is to be competent. In simpler times, this meant only that the surgeon should possess the fund of knowledge and clinical skills required to diagnosis patients' conditions and perform procedures within a specified area of expertise. Although these functions remain the surgeon's core competencies, they no longer constitute an adequate inventory of what is needed to provide patient care in the context of technological surgery.

Surgery is a team performance with ever-increasing complexity, and the surgeon is the captain of the team.[1] Teams have expectations of their leaders, and these typically encompass ideals of intellect, ability, and fairness. The surgeon's responsibility for promoting team morale and high performance is a direct extension of his patient care responsibilities. Surgery has come to require advance planning with others who will be in the OR, including other surgeons, trainees, nurses, and technicians. As team captain, the surgeon properly oversees the integration of the supporting professionals' knowledge and abilities toward the conduct of a safe, efficient, and effective operation. Legitimate oversight requires close familiarity with each team member's duties. Self-assuredness is a necessary component of the surgical persona and enhances the effectiveness of the OR team. This effectiveness diminishes when the surgeon, because of poor planning or insufficient knowledge, cannot resolve a basic glitch in the operative procedure, like trouble-shooting new equipment.

Surgeons have always needed lots of help, to hold down terrified patients in the days before anesthesia or to pass instruments, hold retractors, and run pumps and operate equipment today.[1] The surgical team has become essential, because no single person can be expected to perform simultaneously all of the differentiated tasks and skills involved in modern surgery. In this context, there might be a tendency to assume that all of the trained and certified people in the OR will know and perform all elements of their individual

assignments equally well. A sense can develop that fiduciary responsibility has become diffused throughout the team. It hasn't. It is always the surgeon's operation: no other team member directly enters the ethical professional/patient relationship.

Surgery is not unique among the medical specialties in having to address the ethical challenges of team care, especially the diversity of skills sets and consequent diffusion of responsibility and potential lack of accountability. We find direct parallels in obstetric ultrasound, where sonographers operate sophisticated imaging equipment and interpret resulting images. It has been argued that the ultrasonologist, the physician, should have at least the fund of knowledge and skills of the sonographer in order to be able to adequately supervise and evaluate the sonographer's work and promote continuous quality improvement.[2,3]

Self-sufficiency is an essential constituent of the surgeon's character, along with dexterity, decisiveness, diligence, veracity, and should be developed rather than relinquished. As supervisor of the operating team, the surgeon loses self-sufficiency when another member performs an essential task and the surgeon is without knowledge or appreciation of it. By concentrating on those elements of the technical training that interest them and leaving those that do not to team members less lavishly courted by equipment manufacturers, surgeons abandon their leadership role. Dr R. sacrificed his moral authority by blaming the nurse for the same lapse of which he was guilty. His responsibility for knowing how to calibrate and operate the essential equipment may in fact be greater than hers, because he had the more extensive training course and took it under conspicuously more favorable learning conditions. Option B therefore represents an abrogation of not only the surgeon's supervisory responsibility, but the responsibility for personal competence he assumed when he scheduled a case requiring this technology and then failed to prepare himself for any intraoperative eventuality.

Option C, shared responsibility, is consistent with the team concept, but the division of shares is not necessarily equal. Given that the greater share of the training resources in this case was provided to the surgeon, and that the surgeon will be the most highly rewarded member of the team for his contributions to its success, it must be realistically concluded that the greater responsibility for the machine's operation, including its calibration, is expected of the surgeon as well, with a lesser portion of responsibility assigned to the less fully-trained nurse. Every member of every team knows the pattern in which rewards are distributed among the group, and the morale and effectiveness of every team correlates highly with the demonstrable competence of those in its lucrative leadership roles. It should not be left to medical device and equipment manufacturers to define those roles for medical professionals. Surgeons who want to maintain leadership of their OR teams must do so by demonstrating every day that their authority derives from mastery of everything that occurs in direct relationship to the operation.

Option D represents another abandonment of the surgeon's supervisory responsibility. The nursing supervisor has used the available objective measures—course attendance, course content, and inservice exam results—to develop a reasonable assurance that the circulating nurse is adequately prepared to operate the new equipment in the OR. The nursing supervisor's oversight responsibilities are qualitatively different from the surgeon's because she does not have the latitude to cross disciplines to ensure full coordination of efforts within the OR. She has likely not been authorized, for example, to insist that the surgeon pay better attention during the equipment training course to avoid the sort of problem that occurred in this case.

Option E is pertinent, but cannot replace Option A as the correct ethical response. The surgeon-in-chief is responsible for ensuring that the operating staff is adequately trained and credentialed to do their jobs. Too many surgical programs credential their physicians in general terms like "block privileges" or "all other privileges within this specialty," surrendering appropriate oversight and patient safeguards to administrative expediency. Though advances happen quickly in high-tech surgery, privileging documents can be amended or supplemented just as fast to keep up. Surgeons can and should be specifically credentialed by their institutions in the use of each of the advanced technological instruments with which they operate. Lasers, laparoscopic equipment, robotics, and the rest of the innovative machinery introduced after most of us completed our formal training require new skill sets and should be individually privileged. The elements of their use should properly and specifically include adjustments, calibrations, settings, and trouble-shooting as well as their direct operative applications. These considerations should be met not only to ensure the integrity of supervision within the OR, but to guarantee, as with existing privilege formats, that patients get a good operation. This responsibility encompasses the equipment and technology used directly by the surgeon in the performance of the operation. The anesthesia machine, the extracorporeal pump, and portable x-ray equipment, on the other hand, are supportive technology, and responsibility for their operation properly remains with the specialists extensively trained to use them as the primary tools of their professions.

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